

## Abstract

In order to raise accuracy of measurement, a compound layered type of sensing device is provided. The device comprises a plurality of solid electrolyte plates and first to third electrochemical cells. Each cell has a single pair of electrodes disposed on the solid electrolyte plates. A concentration of a gas specified from a gas to be measured pre-processed based on oxygen pumping by the first electrochemical cell is detected by the second electrochemical cell. A difference in electromotive force between the gas to be measured and a reference gas is detected by the third electrochemical cell. The single pair of electrodes of the third electrochemical cell is disposed on the same surface of one of the solid electrolyte plates, and both of the first and third electrochemical cells are located with different ones of the solid electrolyte plates.